50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Proposed Threatened Status for the Pygmy Sculpin, Cottus pygmaeus

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: The Service proposes to determine the pygmy sculpin, *Cottus pygmaeus*, to be a threatened species under the authority of the Endangered Species Act of 1973, as amended (Act). This small fish is known to exist in only Coldwater Spring and the spring run in Calhoun County, Alabama. Groundwater contamination and restricted population represent major threats to this small sculpin. Water sampling has revealed low levels of trichloroethylene in Coldwater Spring. This proposal, if made final, would implement the protection of the Act for the pygmy sculpin. The Service seeks relevant data and comments from the public.

DATES: Comments from all interested parties must be received by April 10, 1989. Public hearing requests must be received by March 24, 1989.

ADDRESSES: Comments and materials concerning this proposal should be sent to the Jackson, Mississippi, Field Office, U.S. Fish and Wildlife Service, Jackson Mall Office Center, Suite 316, 300 Woodrow Wilson Avenue, Jackson, Mississippi 39213. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: James Stewart at the above address (601/965-4900 or FTS 490-4900).

SUPPLEMENTARY INFORMATION:

Background

The pygmy sculpin was first collected from Coldwater Spring, Calhoun County, Alabama in 1963 and described in 1968 (Williams 1968). This species rarely exceeds 45 millimeters (1.8 inches) in total length. The head is large, body moderately robust and the lateral line is incomplete. Coloration varies by sex, maturity, and breeding condition, while pigmentation is generally consistent (Williams 1968). Pigmentation generally consists of up to three dorsal saddles and mottled or spotted fins. Juveniles have a grayish black body with three light colored saddles. With maturity, the body color becomes lighter, with the grayish black color that remains forming two dark saddles. In juveniles, the head is black, changing to white with small, scattered melanophores in adults. In breeding males, the dark spots in the spinous dorsal fin enlarge and become more intense and the fin margin becomes reddish orange. The entire body becomes suffused with black pigment which almost completely conceals the underlying pattern. The breeding color of females tends to be slightly darker than in non-breeding females.

The only known population of pygmy sculpins is in Coldwater Spring and the spring run. Coldwater Spring is impounded to form a pool of over one acre, 2 to 4 feet deep (McCaleb 1973). The spring run is up to 60 feet wide and 500 feet long where it is joined by Dry Creek. Below this confluence, the stream is known as Coldwater Creek until it joins Choccolocco Creek. The spring flows from the brecciated zone of the Jacksonville fault in the Weisner formation (Williams 1968, McCaleb 1973, Scott et al., 1987). The average flow is 32 million gallons per day with a fairly constant temperature of 16 to 18 degrees centigrade (61° to 64°F). The bottom is gravel and sand with large rocks where the spring boils occur. Large mats of vegetation are present in the spring pool and along the edges of the spring run. Water excess to needs of the Anniston Water Department flows over a low weir dam that is approximately 22 feet wide, to form the spring run. The downstream limit of the pygmy sculpin population occurs at the confluence of Dry Creek. This small stream drains the area of Anniston Army Depot and of a clay mining operation. Water quality degradation has been a long-term problem in Dry Creek. Historic records are not available to document if the pygmy sculpin occurred below the confluence of Dry Creek prior to the water quality degradation.

The City of Anniston owns Coldwater Spring, the spring run, and approximately 240 surrounding acres. The spring pool serves as the primary water supply for Anniston. The average daily withdrawl by Anniston is 16.5 million gallons with an average spring flow of 31.2 million gallons (Scott et al.

1987). The recharge area for Coldwater Spring is estimated at 90 square miles. This area includes portions of Anniston Army Depot, Fort McClellan, the Cities of Anniston and Jacksonville, several smaller towns, and private lands.

Previous Service actions on this species include a notice of review on March 18, 1975 (40 FR 12297), a proposal to list the pygmy sculpin and three other fishes as endangered with critical habitat on November 29, 1977 (42 FR 60765), notice of extension of the comment period and public hearing on February 6, 1978 (43 FR 4872), notice of withdrawal of critical habitat on March 6, 1979 (44 FR 12382), reproposal of critical habitat and notice of public meeting on July 27, 1979 (44 FR 44418), notice of withdrawal of proposed rule on January 24, 1980, (45 FR 5782), and notices of review on December 30, 1982 (47 FR 58454), and September 18, 1985 (50 FR 37958). The pygmy sculpin was placed in category 3C for the 1982 notice, and in category 1 for the 1985 notice. Category 3C candidates were defined as taxa that have proven to be more abundant or widespread than was previously believed and/or those that are not subject to any identifiable threat. In the 1985 notice, category 1 candidates are defined as comprising taxa for which the Service currently has information on hand to support the biological appropriateness of proposing to list as endangered or threatened.

Public meetings on the 1977 listing proposal were held in Birmingham, Alabama, on March 15, 1978, and in Anniston, Alabama, on August 28, 1979. Numerous individuals spoke at the these meetings both for and against the proposal. The opposition was based upon the fear of economic impacts and loss of the spring as a water supply. Some individuals expressed doubt that the pygmy sculpin was confined to just Coldwater Spring. Former Governor Wallace opposed the proposal to list the pygmy sculpin and three other fish species based upon questions concerning the listing procedures, and the potentially adverse economic impact that he perceived would result from the listing of two species other than the pygmy sculpin. The Anniston Water Works and Sewer Board opposed the proposal because they did not believe there was sufficient data to support the listing. The Service discontinued efforts to list the species, and on November 29, 1979, 2 years after publication in the **Federal Register**, the species had not been listed and was therefore automatically withdrawn from proposed status in accordance with provisions of the Endangered Species Act.

Summary of Factors Affecting the Species

Section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations (50 CFR Part 424) promulgated to implement the listing provisions of the Act set forth the procedures for adding species to the Federal lists. A species may be determined to be an endangered or threatened due to one or more of the five factors described in section 4(a)(1). These factors and their application to the pygmy sculpin (Cottus pygmaeus) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* The pygmy sculpin is known to exist in only Coldwater Spring and the spring run. It has never been collected below the confluence of Dry Creek after water from these two streams has completely mixed. Thus, its present range is also the known historic range. However, the historic range may have extended downstream of the Dry Creek confluence prior to the occurrence of environmental pollution as discussed in Factor E. The pygmy sculpin and its habitat are threatened by the proposed construction of a highway bypass from Interstate Highway 20 to the City of Anniston. The Alabama Highway Department has identified three alternate routes for the proposed Anniston Bypass. The early planning preferred route (alternate one) is along the side of Coldwater Mountain immediately above and to the east of Coldwater Spring. The second alternate is to the west of Coldwater Spring. The third alternate is an enlargement of the existing road immediately adjacent to and west of Coldwater Spring and the spring run (Carwile *in litt.*). All three of these proposed routes pass through the recharge area for Coldwater Spring (Scott et al. 1987). Water in subsurface aquifers moves along fissures, faults and cracks in reaching the aquifer and in returning to the surface. The recharge area for Coldwater Spring is estimated at 90 square miles and includes Coldwater Mountain. Construction of alternate one will be along the side of Coldwater Mountain and will undoubtedly require the use of explosives in carving out the roadway. This use of explosives might result in the shifting and closing or cracks and fissures which allow water to surface at Coldwater Spring. An additional threat posed by the completion of alternate one is the accidental spillage of toxic substances. Coldwater Mountain is so steep and the underlying rock formations of such relatively low permeability that the susceptibility for contamination from the mountain is low. However, parallel to Coldwater Mountain and in the valley, is the Jacksonville Fault. The valley has a thick residual mantle with underlying cavernous carbonate rocks over the Fault. This area is highly susceptible to contamination because sinkholds and depressions on the land surface are common in parts of this recharge area (Scott et al. 1987). Any accidental spill from the proposed roadway into this highly permeable area would likely result in rapid contamination of Coldwater Spring to the detriment of the pygmy sculpin. Alternates two and three are to the west of Coldwater Spring and do not pose the same magnitude of threat as alternate one. However, they are still within a portion of the recharge area and the potential for contamination by accidental spillage does exist.

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* Coldwater Spring and the spring run are owned and protected from trespassing and collecting by the Anniston Water Department. As long as this protection exists, this species should not be overutilized.

C. *Disease or predation.* Although the pygmy sculpin may be a prey species for larger carnivorous fish and water snakes, and may be afflicted by diseases and parasites common to fish, there is no evidence to indicate that natural mortalities from these sources are a problem at present.

D. *The inadequacy of existing regulatory mechanisms.* The inadequacy of existing regulatory mechanisms. The State of Alabama requires a scientific collector's permit if a species such as the pygmy sculpin is to be collected. This species is listed as threatened by the Alabama Nongame Conference (Mount 1986) and is designated a nongame species by the State of Alabama. As a nongame species, it is unlawful to possess more than four individuals without a scientific collection permit. The difficulty of enforcing the permit requirement and the priority demands for a law enforcement officer's time virtually eliminate any protection for this species. Therefore, the most effective protection has been provided by a cooperative agreement between the Anniston Water Works and Sewer Board and the U.S. Fish and Wildlife Service that no action will be taken which would endanger the pygmy sculpin. While this good faith agreement provides protection from actions under the control of the Board, it does not provide protection from water contamination and construction projects

discussed in Factors A and E or from other factors beyond the Board's control.

E. *Other natural or manmade factors affecting its continued existence.* Water contamination is occurring in surface water and the subsurface aquifer and is affecting both Coldwater Spring and Dry Creek. Water sampling on and adjacent to the Anniston Army Depot (Depot) indicates hexavalent chromium is discharged to Dry Creek and that chlorinated hydrocarbons are in the ground water at the Depot (Schalla et al. 1984). Schalla et al. conclude that the migration of chlorinated hydrocarbon is not of immediate concern but may have long-range impacts. Trichloroethylene occurs in strong concentrations (up to 120,000 parts per billion) in test wells on Annistan Army Depot and up to 3.4 parts per billion in Coldwater Spring (ESE 1986). Sampling in 1986 did not find phenols and hexavalent chromium in Coldwater Spring yet these chemicals may be migrating in the aquifer since they are found in test wells 2 and 4 on the Depot. Shallow ground water in the area of these wells likely contributes to the recharge of the Jacksonville fault zone (Kangas 1987). Kangas' assessment indicates that water is lost from the shallow aquifer between the Depot boundary and test well 2. This indicates that water from the Depot's shallow aquifer is sinking to a deeper aquifer and possibly surfacing at Coldwater Spring. The 90 square mile recharge area includes several potential contamination sources, including a chemical manufactring industry, Fort McClellan, the City of Anniston, at least one landfill, and the proposed highway connecting Interstate 20 and State Highway 202.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present and future threats faced by this species in determining to propose this rule. Based on this evaluation, the preferred action is to list the pygmy sculpin as threatened. Threatened status was chosen because the species does not appear to be in imminent danger, but it does face threats which could place it in danger of extinction within the foreseeable future. Critical habitat is not designated for reasons discussed in the following section.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that to the maximum extent prudent and determinable, the Secretary designate any habitat of a species which is considered to be critical habitat at the same time the species is determined to be endangered or threatened. The Service finds that designation of critical habitat is not prudent for this species at this time owing to lack of benefit from such designation. No additional benefits would accrue from a critical habitat designation that do not already accrue from the listing.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. Such actions are initiated by the Service following listing. The protection required of Federal agencies and the prohibition against taking and harm are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or theatened and with respect to its critical habitat, if any is being designated. Regulations implementing this interageny cooperation provision of the Act are codified at 50 CFR Part 402. Section 7(a)(4) requires Federal agencies to confer informally with the Service on any action that is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat. If a species is listed subsequently, section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may adversely affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

Federal involvement with this species is expected to include the Federal Highway Administration relative to highway construction, and the Environmental Protection Agency and Department of Defense relative to pollution of the subsurface aquifer.

The Act and implementing regulations found at 50 CFR 17.21 and 17.31 set forth a series of general prohibitions and exceptions that apply to all threatened wildlife. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to take, import or export, ship in interstate commerce in the course of a commercial activity, or sell or offer for sale in interstate or foreign commerce any listed species. It also is illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. Certain exceptions would apply to agents of the Service and State conservation agencies.

Permits may be issued to carry out otherwise prohibited activities involving threatened wildlife species under certain circumstances. Regulations governing permits are at 50 CFR 17.22, 17.23, and 17.32. Such permits are available for scientific purposes, to enhance the propagation or survival of the species, and/or for incidental take in connection with otherwise lawful activities. For threatened species, there are also permits for zoological exhibition, educational purposes, or special purposes consistent with the purposes of the Act. In some instances, permits may be issued during a specified period of time to relieve undue economic hardship that would be suffered if such relief were not available.

Public Comments Solicited

The Service intends that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, any comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning any aspect of this proposal are hereby solicited. Comments particularly are sought concerning:

(1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to this species;

(2) The location of any additional populations of this species and the reasons why any habitat should or should not be determined to be critical habitat as provided by Section 4 of the Act;

(3) Additional information concerning the range and distribution of this species; and

(4) Current or planned activities in the subject area and their possible impacts on this species.

Final promulgation of the regulation on this species will take into consideration the comments and any additional information received by the Service, and such communications may lead to adoption of a final regulation that differs from this proposal.

The Endangered Species Act provides for a public hearing on this proposal, if requested. Requests must be filed within 45 days of the date of the proposal. Such

requests must be made in writing and addressed to Field Supervisor (see **ADDRESSES** section).

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244).

References Cited

Caldwell, R.D. 1965. A study of the fishes from limestone springs in the Valley and Ridge Province of the Mobile Basin. Thesis. Univ. Alabama.

Environmental Science and Engineering, Inc. 1986. Off-post investigation of Anniston Army Depot, summary of preliminary results. Report to U.S. Army Toxic and Hazardous Materials Agency. 35 pp and appendices.

Kangas, M.J. 1987. Draft Anniston Army Depot endangerment assessment. Contract Report to Anniston Army Depot. 66 pp and appendix.

McCaleb, J.E. 1973. Some aspects of the ecology and life history of the pygmy sculpin, *Cottus pygmaeus* Williams, a rare spring species of Calhoun County, Alabama (Picsce:Cottidae). Thesis. Auburn Univ. 82 pp.

Mount, R.H. 1986. Vertebrate animals of Alabama in need of special attention. Alabama Agri. Exp. Sta. pp 11–12.

Schalla, R., G.L. McKown, J.M. Meuser, R.G. Parkhurst, C.M. Smith, F.W. Bond, and C.J. English. 1984. Source identification, contaminant transport simulation, and remedial action analysis, Anniston Army Depot, Anniston, Alabama. Rept. to Anniston Army Depot. 55 pp.

Scott, J.C., W.F. Harris, and R.H. Cobb. 1987. Geohydrology and susceptibility of Coldwater Spring and Jacksonville Fault areas to surface contamination in Calhoun County, Alabama. U.S. Geological Survey report. 29 pp.

Williams, J.D. 1968. A new species of sculpin, *Cottus pygmaeus*, from a spring in the Alabama River Basin. Copeia 1968:334–342.

Author

The primary author of this proposed rule is James H. Stewart (see **ADDRESSES** section).

List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife, Fish, Marine mammals, Plants (agriculture).

Proposed Regulation Promulgation

Accordingly, it is hereby proposed to amend Part 17, Subchapter B of Chapter I, Title 50 of the Code of Federal Regulations, as set forth below:

PART 17—[AMENDED]

1. The authority citation for Part 17 continues to read as follows:

Authority: Pub. L. 93–205, 87 Stat. 884; Pub. L. 94–359, 90 Stat. 911; Pub. L. 95–632, 92 Stat. 3751; Pub. L. 96–159, 93 Stat. 1225; Pub. L. 97–304, 96 Stat. 1411; Pub. L. 100–478, 102 Stat. 2306; Pub. L. 100–653, 102 Stat. 3825 (16 U.S.C. 1531 *et seq.*); Pub. L. 99–652, 100 Stat. 3500; unless otherwise noted.

2. It is proposed to amend § 17.11(h) by adding the following, in alphabetical order under FISHES, to the List of Endangered and Threatened Wildlife.

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
Fishes							
*	*	*	*	*	*	*	*
Sculpin, pygmy	*Cottus pygmaeus*	U.S.A. (AL)	Entire	T		NA	17.44(u)
*	*	*	*	*	*	*	*

3. It is further proposed to add the following as special rule to § 17.44(u).

§ 17.44 Special rules—FISHES

* * * * *

(u) Pygmy sculpin (*Cottus pygmaeus*). The City of Anniston Water Works and Sewer Board will continue to use Coldwater Spring as a municipal water supply. Pumpage may remove all spring flow in excess of six cubic feet per second (3,888,000 gallons per day).

Dated: December 22, 1988.

Becky Norton Dunlop,

Assistant Secretary for Fish and Wildlife and Parks.

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